

**ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
BUREAU OF AIR
DIVISION of AIR POLLUTION CONTROL
PERMIT SECTION**

PROJECT SUMMARY for the
DRAFT TITLE V - CLEAN AIR ACT PERMIT PROGRAM (CAAPP) PERMIT

The Dow Chemical Company
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I. INTRODUCTION

This source has applied for a renewal of the Title V - Clean Air Act Permit Program (CAAPP) operating permit (I.D. 197800AAJ, Permit #95110022) for its existing operation. The CAAPP is the program established in Illinois for operating permits for significant stationary sources as required by the federal Clean Air Act, as amended in 1990, and 40 CFR Part 70. Unlike state operating permits, the conditions in a CAAPP permit are enforceable by both the Illinois Environmental Protection Agency (Illinois EPA) and the USEPA. This document is for informational purposes only and does not shield the Permittee from enforcement actions or its responsibility to comply with applicable regulations. This document shall not constitute a defense to a violation of the Act or any rule or regulation.

A Title V permit contains conditions listing the applicable state and federal air pollution control regulations that apply to a source. The permit conditions also establish emission limits, appropriate compliance procedures, and specific operational flexibility. The appropriate compliance procedures may include monitoring, record keeping, and reporting to show compliance with these requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the source is operating in accordance with the requirements of the permit.

II. KEY ELEMENTS OF THE PROPOSED PERMIT

The Title V permit is divided into several sections and the important elements of the permit are described below:

| | |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Section 1 | Source Identification |
| Section 2 | List Of Abbreviations And Acronyms Commonly Used |
| Section 3 | Insignificant Activities |
| Section 4 | Significant Emission Units Operated At The Source, including construction dates and emission control devices |
| Section 5 | Overall Source Conditions, including source-wide emission and production limitations and work practice requirements |
| Section 6 | Conditions For Emissions Trading Programs |
| Section 7 | Conditions For Specific Significant Emission Units, including unit-specific applicable and non-applicable requirements, emission and production limitations, and procedures on how emissions from particular emission unit shall be calculated |
| Section 8 | General Permit Conditions |
| Section 9 | Standard Permit Conditions |
| Section 10 | Attachments, including guidance on permit related activities, emission changes at the source, and information on Compliance Assurance Monitoring plan(s) |

III. SOURCE DESCRIPTION INFORMATION

a. Location and Nature of Business

The Dow Chemical Company is located at 26332 South Frontage Road in Channahon, Will County, Illinois. The source manufactures expanded polystyrene foam boards which are used as insulation in the building industry. Dow also manufactures polystyrene and vinyl ester resin and operates a storage distribution terminal for liquid chemicals.

b. National Ambient Air Quality Standard Status for this Area

This source is located in an area that is in non-attainment of the National Ambient Air Quality Standards for VOM and PM_{2.5} and attainment for all other pollutants.

c. Major Source Status

The proposed permit is based on:

1. This permit is issued based on the source requiring a CAAPP permit as a major source of emissions of HCFC-142b, a Class II ozone depleting substance that is addressed by the Montreal protocol.

d. Significant Emission Units

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|-----------------------------------------|-------------------------------------------|------------------|------------------------------|
| Storage Tanks B310, B320, B330 | Terminal - Tanks Vented to Condensers | 1982 | Condensers |
| Other Storage and Blending Tanks (~ 64) | Terminal – Tanks Not Vented to Condensers | 1982 | None |
| Loading and Unloading Racks | Railcar, Tank Trucks and Barges | 1982 | Vapor Balance for Some Tanks |

| Emission Unit | Description | Date Constructed | Emission Control Equipment |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|------------------|---------------------------------|
| V-1001, V-1030, V-601, TV-152, TV-1200, V-211, V-225, V-240, TV-156, Vacuum Vent | Polystyrene Process Unit Ducted to Common Vent | 1974 | Firebox of Dowtherm Heater (PS) |
| ME-740, 741, 742 | Dies | 1974 | Demister |
| TV-155, TV-114, V-901, V-902, V-1070, V-1021, V-930, V-112, Tank Truck Loading | Polystyrene Process Uncontrolled Units | 1974 | |
| Dowtherm Heater (PS) | Gas-Fired 10.0 mmBtu/hr | 1974 | Firebox is Control for Process |
| Fugitive Leaks | | | LDAR |
| VT-1, RD-20, R-21, R-22, BT-23, BT-24, VT-30 to VT-34, 36, 37 | Vinyl Ester Resin Units Vented to Control | 1976 | Chilled Scrubber |
| VT-2, VT-3, VT-6, VT-7, VT-51, VT-70, D-20, Drumming, Tank Truck Loading, Railcar Loading, Fugitive Leaks | Vinyl Ester Resin Uncontrolled Units | 1976 | None |
| Dowtherm Heater (VER) | Gas-Fired 6.0 mmBtu/hr | 1976 | None |
| 019 | Polystyrene Silo | 1981 | ---- |
| 024 | Recycle Hopper | 1981 | Baghouse |
| 025 | Plastic (Foam) Processing | 1981 | ---- |
| 029 | Foam Warehouse | 1981 | ---- |

IV. EMISSIONS INFORMATION

a. Permitted Emissions for Fees

The proposed permit limits the source wide maximum annual emissions from significant emission units at the source. Insignificant activities at this source are not accounted for in the source-wide limit. Further unit specific emission unit limitations are found within Sections 5 and 7 of the proposed permit.

For purposes of fees, the source is allowed the following emissions:

| Pollutant | Tons/Year |
|----------------------------------------------------------|-----------|
| Volatile Organic Material (VOM) | 23.5 |
| Sulfur Dioxide (SO ₂) | 4.5 |
| Particulate Matter (PM) | 31.0 |
| Nitrogen Oxides (NO _x) | 8.1 |
| Hazardous Air pollutant (HAP), not included in VOM or PM | 12.0 |
| Total | 79.1 |

b. Emissions of Hazardous Air Pollutants

The proposed permit limits the HAPs emissions from the source to less than 10 tons/year for each individual HAP and 25 tons/year for all HAPs combined. The limitation is being imposed so that the source is not a major source of HAP emissions. In addition, the permit contains the applicable recordkeeping and reporting requirements to ensure compliance with the HAP limits.

d. New Source Review

This proposed permit contains terms and conditions that address the applicability, and, if determined applicable, substantive requirements of Title I of the Clean Air Act (CAA) and regulations promulgated thereunder, including 40 CFR 52.21, Prevention of Significant Deterioration (PSD) and 35 IAC Part 203, Major Stationary Sources Construction and Modification. Any such terms and conditions are identified within the proposed permit by T1, T1R, or T1N. Any conditions established in a construction permit [T1] pursuant to Title I and not revised or deleted in this proposed permit, remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them. Where the source has requested that the Illinois EPA establish new [T1N] or revise [T1R] such conditions in a Title I permit, those conditions are consistent with the information provided in the Title V application and will remain in effect pursuant to Title I provisions until such time that the Illinois EPA revises or deletes them.

This proposed permit does not establish any new [T1N] requirements or revised [T1R] requirements.

V. EMISSIONS CONTROL PROGRAMS INFORMATION

a. Emissions Reduction Market System (ERMS)

Because this source is located in the Chicago ozone non-attainment area and emits volatile organic material (VOM), the proposed permit includes conditions to implement the Emissions Reduction Market System (ERMS). The ERMS is a market-based program designed to reduce VOM emissions from stationary sources to contribute to reasonable further progress toward attainment, as further described in Section 6.0 of the proposed permit. The proposed permit contains the Illinois EPA's determination of the source's baseline emissions and allotment of trading units under the ERMS, and identifies units not subject to further reductions.

VI. MONITORING INFORMATION

- a. The following emission units (or group of emission units) at the source utilize instrumental or non-instrumental monitoring procedures for verifying compliance with existing emission standards and/or limitations. Instrumental monitoring procedures include parameters measured and expected values or range of values. Non-instrumental monitoring procedures may include testing, recordkeeping, inspections, and operational practices. In addition, the applicability of the Compliance Assurance Monitoring (CAM) program is given, based on information provided in the CAAPP application.

| Emission Unit (or Group of Emission Units) | Instrumental Monitoring Procedures | Non-instrumental Monitoring Procedures | CAM Applicability (Yes/No) |
|-----------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------|-------------------------------------------|
| Storage Terminal | Condenser Set Point Temperature | | No |
| Polystyrene Process | Vacuum Vent Temperature and Pressure, Firebox Temperature | | Yes |
| Vinyl Ester Resin Plant | | | Yes |
| Recycle Hopper | | Daily Visual Observations | No |

| Emission Unit (or Group of Emission Units) | Instrumental Monitoring Procedures | Non-instrumental Monitoring Procedures | CAM Applicability (Yes/No) |
|-----------------------------------------------------------|---------------------------------------------------|---------------------------------------------------|-------------------------------------------|
| Foam Processing | | | No Control Equipment |
| Foam Warehouse and Outside Storage | | | No Control Equipment |
| Polystyrene Silo | | | No Control Equipment |

b. Compliance Assurance Monitoring (CAM) Plan

The Compliance Assurance Monitoring (CAM) plan is a program for pollutant-specific emission units which use an add-on control device to achieve compliance with an emission limitation or standard, has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than major source threshold levels, and is not specifically exempt by 40 CFR Part 64. Subject units and the CAM plans are identified in Attachment 3 of the proposed permit.

VII. COMPLIANCE INFORMATION

The source has certified compliance with all applicable rules and regulations; therefore, a compliance schedule is not required for this source.

VIII. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that this source's permit application meets the standards for issuance of a Title V permit. The Illinois EPA is therefore proposing to issue a Title V permit, subject to the conditions proposed in the draft permit.

Comments are requested by the Illinois EPA for the proposed permit. If substantial public interest is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 Ill. Adm. Code Part 166.